

# PATENT SPECIFICATION

(11)

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## DRAWINGS ATTACHED

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- (33) Germany (DT)
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- (51) International Classification B43K 8/00
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## (54) COSMETIC MARKING DEVICE

(71) We, FILTRONA FILTER G.M.B.H.,  
a German Company of Post Reinbeck 13,  
Glinde Bei Hamburg, Germany do hereby  
declare the invention, for which we pray  
that a patent may be granted to us, and  
the method by which it is to be performed,  
to be particularly described in and by the  
following statement:

This invention is concerned with a cos-  
metic marking device. It may be used for  
application of colours to the skin and in a  
principal application, an embodiment of the  
invention is used as an eye-liner.

A known method of applying colour to  
the eyelids uses a dispersion of pigments in  
an aqueous medium, the mixture of pigment  
and medium being applied to the eyelid by  
a brush. The mixtures are such that the  
pigment often settles to the bottom of the  
bottle and if the latter is not strongly shaken  
before use, a thin liquid is taken by the  
brush which does not produce a sharp line  
when applied to the eyelid.

Other known eye-liners include was  
pencils, which have the drawback that high  
pressures must be used to transfer colour to  
the skin and blocks of solid, water soluble,  
colour for application by a brush, a part  
of which must be dissolved each time they  
are used, which are inconvenient and messy  
to use.

This invention provides a cosmetic marking  
device comprising a rod-shaped tampon  
formed of continuous filaments aligned along  
the longitudinal axis of the tampon and  
bonded to each other at points of contact,  
the tampon constituting an integral capillary  
reservoir and application tip with one end  
tapering to form the tip, the tampon being  
surrounded except at the tip by a casing  
and retaining a fluent dispersion of a pig-  
ment with average particle size not greater  
than 1 micron in a liquid medium.

Between the filaments there are spaces  
within which the liquid dispersion medium,

containing the particles of pigment material,  
may be held and from which it may flow.  
The spaces are joined to each other and  
extend from one end of the tampon, which  
is sealed, up to the tip. Preferably the pack-  
ing density of the filaments in the tampon  
is substantially constant over its whole  
length, so that a satisfactory flow of liquid  
and pigment to the skin may be provided.  
The reinforcement of the tip by increasing  
the packing density or by impregnating it  
with resinous bonding agents is not generally  
advisable. Such means tend to reduce the  
space between the filaments so that the flow  
of liquid medium is easily impaired.

**EXAMPLE 1**  
An example of a suitable tampon for use  
with the invention comprises a cylindrical  
bundle of crimped continuous filaments of 65  
cellulose acetate, having an individual  
denier of 8 and a total denier of 35,000. The  
tampon has a length of 120 mm. and a  
diameter of 5.5 mm. One end is planar, the  
other end has the form of a cone having an 70  
included angle of 20°. The filaments extend  
without break from the planar end and  
terminate at the conical surface. They are  
bonded to each other at points of contact  
to form a self-sustaining body, the filament- 75  
ary density of which is substantially constant  
over the whole length, including the tip.  
Other filamentary materials that do not  
swell unduly in the liquid medium may be  
employed in place of cellulose acetate. The 80  
longitudinal alignment of the filaments pro-  
vides longitudinally extending spaces  
throughout the tampon which permit the  
flow of the medium and pigment, and at the  
same time are sufficiently narrow to retain 85  
the liquid by capillary attraction.

In the drawings Figure 1 shows a longi-  
tudinal view partly in cross-section of an  
embodiment of the invention. Figure 2 shows  
a cross-section along the lines A-A' of Fig. 90

ure 1. Figure 3 shows a cross-section through a further embodiment of the invention and Figure 4 shows a cross-section along the lines B-B' of Figure 3.

- 5 Referring now to Figures 1 and 2, the cosmetic marking device 1 comprises a barrel 2, one end of which is closed by a threaded plug 3, having a gripping prong 4, which centralises and retains a tampon 5.
- 10 for example one of the type which has been described above and prevents it from moving. Three knobs 6 formed within the bore of the barrel 2, centralise the tampon 5 at its lower end, thus providing an air passage
- 15 7 which prevents different pressures from arising within different parts of the barrel of the device. At one end the application tip 8 of the tampon projects. A cap 9 is secured in frictional engagement with the barrel 2,
- 20 when the device is not in use.
- In Figures 3 and 4 an alternative embodiment is shown. Corresponding parts have the same numbers as the parts shown in Figures 1 and 2 and serve similar purposes.
- 25 In this the barrel 2, extends so as to leave only a small part of the tip 8 projecting beyond it. The barrel 2 fits closely around the tampon 5 and has a groove 10 formed within its wall to act as an air equalisation channel. The part 11, of the barrel 2, which extends nearer to the end of the tip 8, prevents the tip from bending unduly under sideways pressure when it is used.
- The colouring liquid which is applied by
- 30 the device, comprises a pigment, having a particle size smaller than 1 micron and preferably smaller than 0.5 microns, dispersed in a liquid medium which will have no harmful effect upon the skin. The proportions of the components should be such that the surface tension is low and the viscosity not so low that the material flows to freely on the skin nor so high that it does not readily flow through the body of the
- 35 40 45 tampon to the application tip. A pigment with fine particles enables a colouring liquid to be produced 70% of which or more may flow from the reservoir to the application tip.
- 50 The quantity of each constituent of the colouring liquid may fall within the ranges shown below:

- 55 i. Pigment 10-25%
- ii. Dihydric alcohol 10-25%
- iii. Polyhydric alcohol (3 or 4-OH groups per molecule) 5.0-15.0%
- iv. Non ionic wetting agent 1.0-5.0%
- v. Binding agent 1.0-5.0%
- 60 vi. Flotation agent 0.1-1.0%
- vii. Preservative 0.1-0.5%
- viii. Demineralised water to 100%.

65 The following example of a colouring liquid specifies constituents which may be admixed in accordance with the above composition:

### EXAMPLE 2

- |   |    |
|---|----|
| i. Permanent Carmine FB (colour index number 12490)   |    |
| ii. Propan-1,2-diol   | 70 |
| iii. Propan-1,2,3-triol   |    |
| iv. Polyoxyethylene tridecyl alcohol (a polymeric substance of MW=730 formed by condensation of ethylene oxide and tridecyl alcohol). | 75 |
| v. Sodium carboxymethyl cellulose.  |    |
| vi. Pure colloidal silicic acid.  |    |
| vii. Benzoic acid.  |    |

To prepare the colouring liquid the pigment is milled with the dihydric and higher alcohols and the wetting agent, until the average particle size is less than 0.5 microns. The dispersing agent, water and flotation agents may be present during the milling which is carried out on, for example, a roller mill. After milling the rest of the constituents are added and the mixture is agitated by a high speed dispersion mixer.

An appropriate quantity of colouring liquid is injected into each marking device after assembly of the casing and the tampon and the end is sealed by means of the plug.

### WHAT WE CLAIM IS:—

95 1. A cosmetic marking device comprising a rod-shaped tampon formed of continuous filaments aligned along the longitudinal axis of the tampon and bonded to each other at points of contact, the tampon constituting an integral capillary reservoir and application tip with one end tapering to form the tip, the tampon being surrounded except at the tip by a casing and retaining a fluent dispersion of a pigment with average particle size not greater than 1 micron in a liquid medium.

2. A marking device according to claim 1 wherein the packing density of the filaments is substantially constant along the length of the tampon.

3. A marking device as claimed in claim 1 or 2 having a passageway along the bore of the casing which permits air to move along the length of the tampon.

4. A marking device as claimed in claim 3 wherein the casing comprises a barrel into the bore of which the tampon is fitted, the passageway comprising a groove which extends along the length of the bore.

5. A marking device as claimed in claim 3, wherein the casing comprises a barrel, the bore of which is provided with knobs which space the tampon from the bore over its whole length so as to form the passageway.

6. A marking device as claimed in claim 4 or 5 in which the barrel is closed at one end by a plug, the inner face of which terminates in a prong which secures the tampon.

7. A marking device as claimed in any of the preceding claims wherein the casing

has a frustoconical end which surrounds all but the very end of the tapered application tip and supports it against radially directed forces.

5 8. A cosmetic marking device according to any of the preceding claims wherein the dispersion contains a dihydric alcohol.

9. A marking device according to claim 8 wherein the dispersion contains from 1-5%

10 of a non ionic wetting agent.

10. A marking device substantially as described with reference to Figs. 1 and 2 of the drawings.

11. A marking device substantially as 15 described with reference to Figs. 3 and 4

of the drawings.

12. A marking device as claimed in any of claims 1 to 11, the tampon of which is substantially as described in Example 1.

13. A marking device as claimed in any 20 of claims 1 to 12, the pigment dispersion of which is substantially as described in Example 2.

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2 SHEETS

COMPLETE SPECIFICATION

This drawing is a reproduction of  
the Original on a reduced scale.  
SHEET 1

Fig. 1.

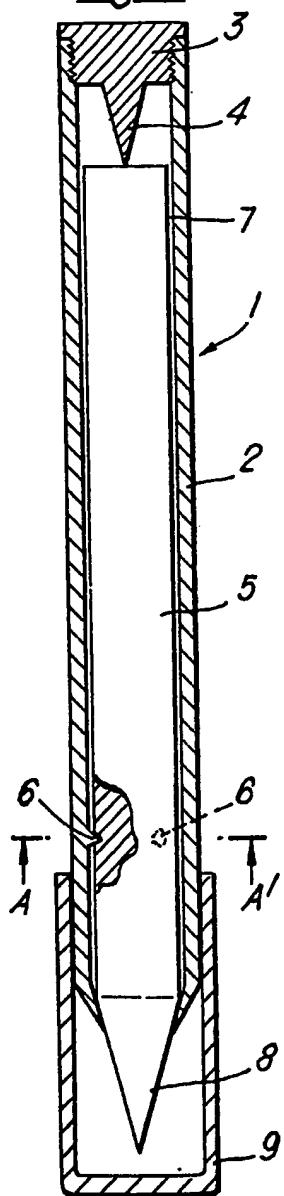
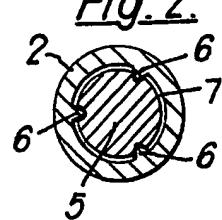


Fig. 2.



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2 SHEETS

COMPLETE SPECIFICATION

*This drawing is a reproduction of  
the Original on a reduced scale.*  
SHEET 2

Fig. 3.

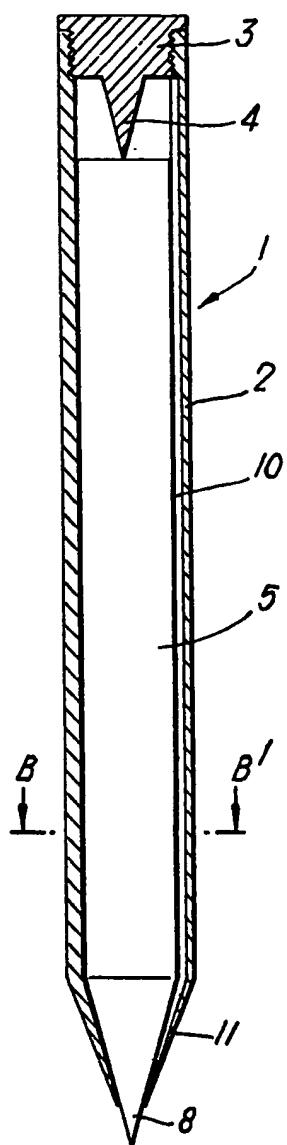


Fig. 4.

